

Claims 5-12, 16, 19, and 26-48 were pending prior to the instant amendment. By this amendment, claim 33 is amended, and new claims 49-66 are added to recite additional features of the present invention to which Applicants are entitled. Consequently, claims 5-12, 16, 19 and 26-66 are currently pending in the instant application.

In the Office Action, claims 5-8, 11-12, 16, 19, 26-48 are rejected under 35 U.S.C. §103(a) as being unpatentable over Oka, in view of Liu et al. and in further view of Kuznetsov, and claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oka in view of Liu and further in view of Yonehara or Shibata. These rejections are traversed for the reasons advanced in detail below.

The Examiner asserts that Oka discloses a method of manufacturing a semiconductor device as claimed except for purposely leaving any areas amorphous, Liu teaches the formation of pixel TFT using an amorphous silicon area, and Kuznetsov teaches that a metal catalyst induced crystallization occurs by lateral diffusion of the metal throughout the a-Si. With respect to the specific concentration of Ni, the Examiner asserts that the concentration of 1×10^{19} atoms/cm³ is prima facie obvious from the prior art range.

However, it should be noted that Oka does not disclose the specific range of the present invention. Specifically, Oka fails to teach the maximum value of the Ni concentration in said semiconductor film. In fact, Oka fails to disclose any range for the Ni concentration. Applicants contend that it is important to recite the maximum value in order to leave same areas of the silicon amorphous, as provided on page 13 of the specification. That is, Oka's sufficient concentration to obtain catalytic action without inducing abnormal

metal diffusion is insufficient to suggest the specific upper limit recited in the claims of the instant application, since Oka does not even suggest the purposeful leaving of any areas amorphous. Therefore, the upper limit of the catalyst range is not merely a matter optimization, but, instead, provides a specific function that is not suggested by the cited art of record.

Moreover, Kuznetsov does not teach the lateral crystal growth since the metal is introduced through the whole of the silicon wafer and the images to show the crystal structure are only cross-section views. Routine experimentation is not sufficient for providing the required motivation for an obviousness rejection. "Obviousness does not require absolute predictability but a reasonable expectation of success is necessary. In re Clinton, 188 U.S.P.Q. 365, 367 (C.C.P.A. 1976)(emphasis added). Both the suggestion of the invention and the expectation of success must be found in the prior art, not in Applicants' disclosure. Selective hindsight is not appropriate to design experiments in order to reach the claimed invention. In re Dow Chemical, 5 U.S.P.Q.2d 1529, 1531-32 (Fed. Cir. 1988). Accordingly, Applicants contend that there is no reason to combine this reference with Oka and Liu.

For the above reasons, Applicants respectfully disagree with the Examiner's rejections, and requests reconsideration and withdrawal thereof..

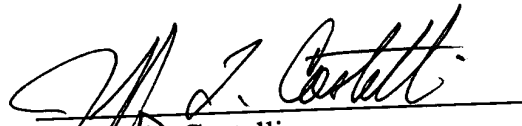
Claims 33, 19, 34 and 35 are also rejected under 35 U.S.C. §112, second paragraph, for being indefinite. Claim 33 is amended herein to include a recitation of Celsius, as provided in the other pending claims and as supported in the specification on page 3. This should place claims 33, as well as claims 19, 34 and 35 in a condition for allowance.

New claims 49-66, which are based on Figs. 2A-D and 3 as well as the accompanying disclosure, are added to recite additional features of the present invention to which Applicants are entitled..

In view of the foregoing, it is respectfully requested that the rejections of record be reconsidered and withdrawn by the Examiner, that claims 5-12, 16, 19 and 26-48 be allowed, that new claims 49-66 be allowed and that the application be passed to issue.

If a conference would expedite prosecution of the instant application, the Examiner is hereby invited to telephone the undersigned to arrange such a conference.

Respectfully submitted,


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